

WHAT IS CLAIMED IS:

1. An optical interference display panel, comprising:

a first substrate;

5 an opaque protection structure, adhered to the first substrate with an adhesive; and

an optical interference reflection structure, located between the first substrate and the opaque protection structure;

wherein the opaque protection structure prevents light from passing
10 through a defect in the optical interference reflection structure and causing a bad pixel.

2. The optical interference display panel of claim 1, wherein the optical interference reflection structure comprises:

15 a first electrode;

a second electrode, wherein the second electrode is situated in parallel with the first electrode substantially; and

a support, located between the first electrode and the second electrode to form a cavity.

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3. The optical interference display panel of claim 1, wherein the opaque protection structure is a flat protection structure or a U-shaped protection structure.

4. The optical interference display panel of claim 1, wherein a material of the opaque protection structure is an opaque material or a light absorptive material.

5 5. The optical interference display panel of claim 1, wherein the opaque protection structure comprises:

a second substrate; and

an opaque film, deposited on the second substrate.

10 6. The optical interference display panel of claim 5, wherein the opaque film is between the second substrate and the optical interference reflection structure.

7. The optical interference display panel of claim 5, wherein the opaque
15 film is a metal film or a light absorptive film.

8. The optical interference display panel of claim 1, wherein the first substrate and the opaque protection structure are airtight to prevent the optical interference reflection structure from being damaged by an external
20 environment.

9. The optical interference display panel of claim 1, wherein the adhesive comprises spacers, and the spacers keep a predetermined distance between the opaque protection structure and the first substrate to prevent the opaque
25 protection structure from damaging the optical interference reflection structure.

10. The optical interference display panel of claim 1, wherein the adhesive comprises a UV glue or a thermosetting adhesive.

5 11. A method for manufacturing an optical interference display panel, the method comprising:

providing a first substrate;

forming an optical interference reflection structure on the first substrate;

and

10 adhering an opaque protection structure to the first substrate to position the optical interference reflection structure between the opaque protection structure and the first substrate;

wherein the opaque protection structure prevents light from passing through a defect in the optical interference reflection structure and causing a

15 bad pixel.

12. The method of claim 11, wherein the optical interference reflection structure comprises:

forming a first electrode on the first substrate;

20 forming a sacrificial layer on the first electrode;

forming a plurality of first openings in the first electrode and the sacrificial layer;

forming a support in each of the first opening;

forming a second electrode on the sacrificial layer and the supports; and

25 removing the sacrificial layer by a release etch process.

13. The method of claim 11, wherein the opaque protection structure is a flat protection structure or a U-shaped protection structure.

5 14. The method of claim 11, wherein a material of the opaque protection structure is an opaque material or a light absorptive material.

15. The method of claim 11, wherein the opaque protection structure comprises:

10 a second substrate; and
 an opaque film, deposited on the second substrate.

16. The method of claim 15, wherein the opaque film is between the second substrate and the optical interference reflection structure.

15 17. The method of claim 15, wherein the opaque film is a metal film or a light absorptive film.

18. The method of claim 11, wherein the first substrate and the opaque
20 protection structure are airtight to prevent the optical interference reflection structure from being damaged by an external environment.

19. The method of claim 11, wherein the adhering step comprises adhering the opaque protection structure to the first substrate with an adhesive.

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20. The method of claim 19, wherein the adhesive comprises spacers, and the spacers keep a predetermined distance between the opaque protection structure and the first substrate to prevent the opaque protection structure from damaging the optical interference reflection structure.

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21. The method of claim 19, wherein the adhesive comprises a UV glue or a thermosetting adhesive.